

PART 6

CONCLUSIONS

The proposed PRB expansion project is designed to provide efficient and competitive rail service from coal mines in Wyoming's Southern Powder River Basin to more eastern electrical utilities. The project involves construction and operation of approximately 280 miles of new rail line in Minnesota, South Dakota and Wyoming and rebuilding of approximately 600 miles of existing rail line in Minnesota and South Dakota. Table 6-1 summarizes preliminary determination of effects to Federally listed endangered, threatened, proposed, candidate and petitioned species that could result from implementing different alternatives for this project in Minnesota, South Dakota, and Wyoming.

6.1 BLACK-FOOTED FERRET

The species' recovery is dependent on captive breeding animals and their reintroduction to suitable habitats. One reintroduction site is within portions of BGNG and Badlands National Park, the Conata Basin/Badlands site in South Dakota. Another proposed reintroduction site is on TBNG, the Rosecrans site in Wyoming. Since Alternative B would pass through that site on TBNG, it would likely no longer be suitable for reintroduction of black-footed ferrets thus Alternative B would impede the species' recovery.

None of the other alternatives for new railroad construction would affect ferret reintroduction. But, because of continued reductions in prairie dog populations on private lands (Hansen et al. 1999) and the spread of sylvatic plague and other diseases through extant prairie dog populations, black-footed ferrets are likely to remain endangered during and after project completion. However, successful reestablishment of reintroduced populations will reduce risks of the species' extinction.

However, if extant populations exist in the project area they may be impacted. The USFWS's Biological Opinion in response to the Continental Divide/Wamsutter II proposed project stated that the Service's Black-footed survey Guidelines (1989) may not be applicable to large projects and suitable habitat was redefined. Additionally, in the Biological Opinion the USFWS takes the position that the lethal take of an individual black-footed ferret does not give rise to a finding of jeopardy.

6.2 PIPING PLOVER

The primary threats to piping plover are habitat modification and destruction, and human disturbance during nesting season. While construction and operation of new railroad alternatives and rebuilding the existing railroad will not alter in-stream flows in the same way that dams do, water removal from the Cheyenne River during construction could reduce flows temporarily. Additional water depletions would reduce the width and/or depth of water surrounding nest sites, which may increase predation and human disturbance. Construction of stabilization measures required on Cheyenne River banks could alter river hydraulic dynamics, thus altering island and sandbar erosion or deposition patterns downstream. Neither water depletion nor altered river hydraulics is likely to adversely affect piping plovers if they do not occur during the nesting period. Construction of alternatives B or C would impact more areas along the Cheyenne River than Alternative D. Alternative D crosses the river only once. The project is not expected to contribute to any change in the species' status during or after completion.

6.3 WHOOPING CRANE

It is doubtful that any short- or long-term projects effects would actually influence whooping cranes. The project is not expected to contribute to any change in the species' status during or after completion.

6.4 INTERIOR LEAST TERN

USFWS identified elimination of suitable nesting sites on in-river island and sandbars and nest predation as the principal factors contributing to the species decline. While construction and operation of new railroad alternatives and rebuilding the existing railroad will not alter in-stream flows in the same way that dams do, water removal from the Cheyenne River during construction could reduce flows temporarily. Additional water depletions would reduce the width and/or depth of water surrounding nest sites, which may increase predation and human disturbance. Increased water depletions also allow for vegetation encroachment into nesting areas, making them less suitable as nesting habitat. Extreme depletions may dewater river reaches sufficiently to kill small fishes, the least tern's principal food.

Construction of stabilization measures required on Cheyenne River banks could alter river hydraulic dynamics, thus altering island and sandbar erosion or deposition patterns downstream. Neither water depletion nor altered river hydraulics is likely to adversely affect interior least terns if they do not occur during the nesting period, but only if terns are nesting contemporaneously with construction and water withdrawn from the Cheyenne River.

Other potential project impacts to interior least terns include noise during construction and operation causing displacement from nesting and feeding areas and accidental releases of petroleum products and creosote from ties, that could affect terns and/or their food supply. Construction of either alternatives B or C would impact more areas along the Cheyenne River than Alternative D; since Alternative D crosses the river only once. The project is not expected to contribute to any change in the species' status during or after completion.

6.5 TOPEKA SHINER

Sedimentation and eutrophication have been cited as primary impacts to this species. In those counties where the Topeka shiner presently exists (Lincoln County, Minnesota; Brookings, Kingsbury, Beadle, and Hand counties, South Dakota), ninety-eight percent of the existing railroad route is through human developments and croplands. Mitigation measures and best-management practices employed during rebuild and operation of the existing railroad should minimize any discharge and habitat degradation to inhabited streams crossed or adjacent to the railroad. The project is not expected to contribute to any change in the species' status during or after completion.

6.6 PALLID STURGEON

Destroyed and altered habitats are believed to be the primary cause of adverse effects to the species survival. The new railroad project alternatives and rebuild and operation of the existing railroad could contribute to pollution through accidental release or chronic discharge of petroleum products and creosote from ties, that could affect pallid sturgeons downstream. It is impossible to predict if, when and where these short- and long-term project effects would actually influence sturgeons since the likelihood of such events is unknown: mitigation measures and best-management practices will be implemented to minimize any discharge to the Cheyenne River. The project is not expected to contribute to any change in the species' status during or after completion.

6.7 AMERICAN BURYING BEETLE

It is unclear why American burying beetles are on the decline. The new railroad alternatives and rebuild of the existing railroad may increase edge habitat which could be used by predators and scavengers (American crow, raccoon, fox, opossum, and skunk), potential competitors with the American burying beetle for carrion as well as potentially preying on beetles. Too, construction machinery could crush beetles but it is impossible to predict if, when and where project components would actually impact burying beetles since none are known to occur in the project area. Therefore, it is impossible to project the impacts of the project on this species. Only minimal impacts, if any, would be anticipated because the species is not expected to be present. The project is not expected to contribute to any change in the species' status during or after completion.

6.8 MINNESOTA DWARF TROUT LILY

There is no indication that the species occurs within the project area or would be affected by rebuilding and operating the existing railroad in Minnesota. The project is not expected to contribute to any change in the species' status during or after completion.

6.9 HIGGIN'S EYE PEARLY MUSSEL

There is no indication that the species occurs within the project area or would be affected by rebuilding and operation of the rail line in Minnesota. The project is not expected to contribute to any change in the species' status during or after completion.

6.10 WINGED MAPLELEAF MUSSEL

There is no indication that the species occurs within the project area or would be affected by rebuilding and operating the existing railroad in Minnesota. The project is not expected to contribute to any change in the species' status during or after completion.

6.11 KARNER BLUE BUTTERFLY

Oak savannah habitat has been modified or eliminated by urbanization, silviculture, and fire suppression contributing to the species endangerment. There is no indication that the existing railroad in Minnesota coincides with suitable habitat for Karner blue butterflies. Unless the species' only known larval food plant, wild lupine (*Lupinus perennis*), is found growing in the construction right-of-way, the project would not impact the Karner blue butterflies. The project is not expected to contribute to any change in the species' status during or after completion.

6.12 UTE LADIES'-TRESSES ORCHID

The primary threat to this species is loss and modification of riparian habitat. Although this species is not known to occur in any counties within the analysis areas in South Dakota and Wyoming, it was included on lists of potential species inhabiting the project area in the Cheyenne River drainage by USFWS. Four sites along Alternative B were identified as potential habitat for the orchid; compared to two sites along Alternative C and one site along Alternative D. Proposed mitigation for this species should ensure that potential cumulative effects contributed by the proposed new railroad alternatives do not occur. The project is not expected to contribute to any change in the species' status during or after completion.

6.13 PRAIRIE BUSH-CLOVER

Agricultural development and road and residential developments have been cited as the primary causes of the species decline. Rebuilding the existing railroad has the potential to impact at least one known population of this species that has been observed growing within or near the existing right-of-way in Brown County, MN and the existing railroad intersects mesic and dry prairie remnants, potential habitat for prairie bush-clover. Searching for prairie bush-clover prior to construction and protecting populations found within construction zones is the only practicable means to completely eliminate impacts to the species. The project is not expected to contribute to any change in the species' status during or after completion.

6.14 LEEDY'S ROSEROOT

Suitable habitat for the species is not present along the existing railroad in southeastern Minnesota and there is no indication that the species occurs within the project area or would be affected by rebuilding and operating the existing railroad in Minnesota. The project is not expected to contribute to any change in the species' status during or after completion.

6.15 WESTERN PRAIRIE FRINGED ORCHID

This species is primarily threatened by loss and modification of habitat. Although this species is not known to occur in any counties within the analysis areas in Minnesota and South Dakota, it was included on lists of potential species inhabiting the project area in adjacent Pipestone and Rock counties, Minnesota by USFWS.

There are several wet prairie remnants intersected by the existing railroad in 3 counties in Minnesota. Searching for western prairie fringed orchid prior to construction and protecting populations found within construction zones is the only practicable means to completely eliminate impacts to the species. The project is not expected to contribute to any change in the species' status during or after completion.

6.16 BALD EAGLE

Construction and operation of the new railroad and rebuilding the existing railroad are likely to be sources of disturbance and potential mortality to wintering bald eagles in Minnesota, South Dakota, and Wyoming. Proposed mitigation can reduce the likelihood of direct eagle mortality by operating trains through removal of any carrion from tracks and rights-of-way. However, noise and activities associated with construction and operation of the railroad are likely to disturb wintering eagles within some distance of the tracks along the Minnesota River (Minnesota); Bad and Missouri rivers (South Dakota); and the Cheyenne River (Wyoming and South Dakota).

Mitigation measures and stipulations will provide some measure of protection to bald eagles if applied to lands adjacent to rivers crossed by the new railroad alternatives and existing railroad reconstruction. Those measures could reduce risks of the project contributing significant cumulative effects. The project is not likely to contribute to any change in the species' status during or after completion.

6.17 MOUNTAIN PLOVER

Mountain plover habitat is threatened by the conversion of grasslands to croplands and urban uses, domestic livestock management, mineral development and prairie dog control. If prairie dog management on Federal lands was directed to expanding colonies and populations, the effect would be beneficial to mountain plover. Mitigation measures will provide some measure of protection to the species if applied to lands crossed by the new railroad alternatives. These measures could reduce risks of the project contributing significant cumulative effects that would change the species' status during or after completion. Alternative B impacts approximately 279 acres of potential nesting habitat compared to 424 acres impacted by Alternative C and 150 acres impacted by Alternative D.

The amount of suitable habitat available may be broad. Mountain plover may not be limited to the availability of suitable habitat.

6.18 SWIFT FOX

Loss of native habitat, trapping, hunting, vehicular traffic and prey reduction from rodent control are some reasons for the animal's continued decline. Swift fox probably use all upland habitats within the proposed project area in South Dakota and Wyoming. If prairie dog management on Federal lands was directed to expanding colonies and populations, the effect would be beneficial to swift fox. Mitigation measures will provide some measure of protection to the species if applied to lands crossed by the new railroad alternatives. These measures could reduce risks of the project contributing significant cumulative effects that would change the species' status during or after completion.

6.19 STURGEON CHUB

Habitat alteration and water withdrawals have contributed to the species decline. While construction and operation of new railroad alternatives will not alter in-stream flows in the same way that dams do, water removal

from the Cheyenne River during construction could reduce flows temporarily. Additional water depletions could isolate sturgeon chubs in pools with poor water quality and/or increase their risk of predation by introduced piscivorous fish. Construction of stabilization measures required on Cheyenne River banks could alter river hydraulic dynamics, thus altering channel characteristics and potential spawning sites in the immediate area. Mitigation measures and best-management practices employed during construction and operation of the new railroad alternatives should minimize any discharge and water depletions to the Cheyenne River at periods when sturgeon chub are likely to be most vulnerable. Alternative B impacts the Cheyenne River and its tributaries more times than alternatives C and D. The project is not expected to contribute to any change in the species' status during or after completion.

6.20 BLACK-TAILED PRAIRIE DOG

Multiple factors that impact prairie dog populations include conversion of prairie habitats to agriculture, sport shooting, sylvatic plague, fragmentation of grasslands, and poisoning. Each of the new railroad project alternatives pass through prairie dog colonies and construction activities are expected to adversely impact individual prairie dogs; but not contribute significantly to species viability rangewide. Once construction is completed, previously disturbed work zones are likely to be re-colonized as long as healthy populations remain in the vicinity. Alternative B would impact approximately 279 acres of prairie dog colonies compared to 424 acres under Alternative C and approximately 150 acres under Alternative D.

Table 6-1**Preliminary Determination of Effects to Federally Listed Endangered, Threatened, Proposed, Candidate and Petitioned Species**

Species	Rebuild in MN and SD	New Build in Minnesota		New Build Alternatives in South Dakota and Wyoming				
	Existing	Mankato	Owatonna	B	C	Phiney Flat	W G Flat	D
Black-footed ferret	No Effect	No Effect	No Effect	Likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Piping plover	No Effect	No Effect	No Effect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Whooping crane	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Interior least tern	Not likely to adversely affect	No Effect	No Effect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Topeka shiner	Not likely to adversely affect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Pallid sturgeon	Not likely to adversely affect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
American burying beetle	Not likely to adversely affect	No Effect	No Effect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Minnesota dwarf trout lily	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Higgin's eye pearly mussel	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Karner blue butterfly	Not likely to adversely affect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Ute ladies' - tresses orchid	No Effect	No Effect	No Effect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Prairie bush-clover	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	No Effect	No Effect	No Effect	No Effect	No Effect
Leedy's roseroot	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect	No Effect
Western prairie fringed orchid	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	No Effect	No Effect	No Effect	No Effect	No Effect
Bald eagle	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Mountain plover	No Effect	No Effect	No Effect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Swift fox	No Impact	No Impact	No Impact	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Sturgeon chub	No Impact	No Impact	No Impact	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect
Black-tailed prairie dog	No Impact	No Impact	No Impact	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect	Not likely to adversely affect

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Biological Opinion

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United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
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ES-6-WY-01-F008

October 26, 2001

Ms. Victoria Rutson
Section of Environmental Analysis
Surface Transportation Board
1925 K Street, N.W.
Washington, D.C. 20423-0001

Dear Ms. Rutson:

This document transmits the Fish and Wildlife Service's (Service) biological and conference opinions based on our review of the proposed construction and operation of the Dakota, Minnesota and Eastern Railroad Corporation's (DM&E) Powder River Basin Expansion Project in south-central Minnesota, southwest South Dakota, and east-central Wyoming, and its effects on the threatened bald eagle (*Haliaeetus leucocephalus*), the threatened Ute ladies'-tresses (*Spiranthes diluvialis*), and the proposed mountain plover (*Charadrius montanus*) in accordance with section 7 of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.)(Surface Transportation Board Finance Docket No. 33407). This consultation addresses Alternative C of the proposed action, as requested in your January 26, 2001, letter, as well as in a letter from Holland and Hart, LLP, dated January 3, 2001. Your request for formal consultation was received on May 7, 2001.

This biological opinion is based on information provided in the November 1998 Powder River Basin Expansion Project Inventory for the Ute Ladies'-tresses (*Spiranthes diluvialis* Sheviak); the February 1999 Winter Bald Eagle Survey on the Proposed Dakota, Minnesota and Eastern Railroad Powder River Basin Expansion Project in Wyoming and South Dakota; the July 1999 Survey for Interior Least Terns and Piping Plovers Along a Proposed Route for the Dakota, Minnesota and Eastern Railroad Powder River Expansion Project in South Dakota; the August 2000 Biological Assessment for the Dakota, Minnesota, and Eastern Railroad Construction Proposal (Biological Assessment); the August 24, 2000, revision to Chapter 6 of the Biological Assessment providing more information regarding the Topeka shiner; the September 2000 Draft Environmental Impact Statement for the Powder River Basin Expansion Project (DEIS); the September 2000 U.S. Army Corps of Engineers 404 Permit Application for the Powder River Basin Transportation Project; the December 18, 2000, letter from Wyoming Game and Fish

Department (WGFD) to the Wyoming Office of Federal Land Policy containing comments on the DEIS; the January 26, 2001, letter from the Surface Transportation Board (Board) to the Service identifying Alternative C as the alternative upon which consultation should be based; the February 26, 2001, letter from Holland and Hart, LLP, to the Service identifying those measures the applicant has committed to implement to minimize and mitigate adverse effects to listed, proposed, and candidate species; the March 5, 2001 letter from the WGFD to the U.S. Army Corps of Engineers containing comments on Public Notice 20007001; the May 2, 2001, letter from the Board requesting initiation of formal consultation; numerous meetings, conference calls and other telephone conversations with Board representatives; field investigations; and other sources of information. A complete administrative record of this consultation is on file at the Service's Wyoming Field Office, Cheyenne, Wyoming.

We agree with your determination that Alternative C of the proposed action is not likely to adversely affect the endangered black-footed ferret (*Mustela nigripes*), endangered interior least tern (*Sterna antillarum*), endangered whooping crane (*Grus americana*), threatened piping plover (*Charadrius melodus*), endangered Topeka shiner (*Notropis topeka*), endangered pallid sturgeon (*Scaphirhynchus albus*), endangered Higgin's eye pearly mussel (*Lampsilis higginsii*), endangered winged mapleleaf mussel (*Quadrula fragosa*), endangered American burying beetle (*Nicrophorus americanus*), endangered Karner blue butterfly (*Lycaeides melissa samuelis*), endangered Minnesota dwarf trout lily (*Erythronium propullans*), threatened prairie bushclover (*Lespedeza leptostachya*), threatened Leedy's roseroot (*Sedum integrifolium* ssp. *leedyi*), and the threatened western prairie fringed orchid (*Platanthera praeclara*). As we indicated in our March 28, 2001, letter regarding this project and the determinations arrived at in the biological assessment, we do not concur with your determination of "not likely to adversely affect" regarding the candidate black-tailed prairie dog (*Cynomys ludovicianus*). However, this species is not included in these biological and conference opinions as it has no legal status as a candidate species. Although the swift fox (*Vulpes velox*) and the sturgeon chub (*Macrohybopsis gelida*) are no longer candidates for listing, we do agree with your determination that the proposed project is not likely to adverse affect these species.

Consultation History

Informal consultation between the Service and the Board regarding the Powder River Basin Expansion Project began with a May 11, 1998, letter from Burns and McDonnell to the Service requesting information regarding natural resources in the project area. The Service responded with June 12, 1998, letter containing a list of threatened, endangered, proposed, and candidate species, as well as discussion of several general concerns. The Service was subsequently provided with the November 1998 Powder River Basin Expansion Project Inventory for the Ute Ladies'-tresses (*Spiranthes diluvialis* Sheviak); the February 1999 Winter Bald Eagle Survey on the Proposed Dakota, Minnesota and Eastern Railroad Powder River Basin Expansion Project in Wyoming and South Dakota; and the July 1999 Survey for Interior Least Terns and Piping Plovers Along a Proposed Route for the Dakota, Minnesota and Eastern Railroad Powder River Expansion Project in South Dakota. On April 30, 1999, the Service was provided a draft biological assessment to review and comment on. However, the Service was subsequently advised to ignore the draft, because the project proponent needed to make significant revisions to

the document. The information regarding species that may be affected by the project was updated May 2, 1999, during a telephone conversation between the Service and Burns and McDonnell (representative for the Board). On August 10, 2000, the Service received the August 2000 Biological Assessment for the Dakota, Minnesota, and Eastern Railroad Construction Proposal. The Service voiced concerns regarding the Topeka shiner by telephone shortly after receiving the Biological Assessment and a revision to Chapter 6 of the Assessment was received on August 24, 2000. The Board provided the Service with the Draft Environmental Impact Statement for the Powder River Basin Expansion Project in September, 2000. On December 15, 2000, the Service received the September 2000 U.S. Army Corps of Engineers 404 Permit Application for the Powder River Basin Transportation Project. Through a January 3, 2001, letter from Holland and Hart (representing the project proponent) and a January 26, 2001, letter from the Board, the Service was instructed to focus all review and consultation on Alternative C. A February 26, 2001, letter from Holland and Hart provided the Service with a list of conservation and mitigation measures DM&E had voluntarily committed to implement in an effort to reduce adverse effects to listed, proposed, and candidate species. On March 28, 2001, the Service officially notified the Board in a letter that the Service did not concur with the determinations made in the Biological Assessment regarding the bald eagle, Ute ladies'-tresses orchid, mountain plover, or black-tailed prairie dog. The May 2, 2001, letter from the Board requesting initiation of formal consultation was received by the Service on May 7, 2001. The Service responded on June 5, 2001, with a letter indicating a complete initiation package had been received. Additionally, many meetings, telephone conversations, and conference calls were conducted during consultation.

A great deal of correspondence was also exchanged in association with Clean Water Act and National Environmental Policy Act compliance issues. This correspondence was generally independent of this consultation, although issues regarding Endangered Species Act compliance were occasionally mentioned in the correspondence.

BIOLOGICAL AND CONFERENCE OPINIONS

DESCRIPTION OF THE PROPOSED ACTION

The Powder River Basin Expansion Project has been proposed by the Dakota, Minnesota, and Eastern Railroad to facilitate transportation of high-quality coal from Wyoming mines to eastern markets. The project includes construction of approximately 280 miles of new rail line. Additionally, DM&E would rebuild approximately 600 miles of its existing rail line to standards acceptable for operation of coal trains.

The new rail construction is proposed to include approximately 280 miles of rail line extending from DM&E's existing system near Wall, South Dakota, southwesterly to Edgemont, South Dakota, and then westerly into Wyoming to connect with existing coal mines located in Converse and Campbell counties, Wyoming. Additional new rail construction of approximately 14 - 17 miles is proposed to connect two DM&E lines at Mankato, Minnesota. Approximately 1 - 3

miles of new rail line construction is proposed near Owatonna, Minnesota, to connect the DM&E lines with the I&M Rail Link.

The majority of the proposed rebuild would be along DM&E's mainline between Wall, South Dakota, and Winona, Minnesota. Approximately 5 miles of existing rail line near Smithwick, South Dakota, would also be rebuilt. Rail line rebuilding would include rail, tie, and ballast replacement, additional sidings, signals, and grade crossing improvements.

Conservation Measures

The Board has addressed direct and indirect impacts of the project on the bald eagle, Ute ladies'-tresses, and mountain plover. In an effort to be proactive in protecting these habitats and species with regard to the proposed construction and operation of the railroad, the Board committed to certain conservation/mitigation measures to minimize impacts during construction and increase the likelihood of the continued existence of these species after reclamation is complete. These measures were identified in Chapter 7 of the Draft Environmental Impact Statement and in the February 26, 2001, letter from Holland and Hart to the Service. These measures include, but are not limited to, the following:

- Financially aid raptor rehabilitation efforts through a \$5000 contribution to a rehabilitation facility, as well as reimbursement for rehabilitation costs associated with birds of prey injured by the DM&E operations
- Obtain conservation easement on occupied Ute ladies'-tresses habitat
- Acquire lands or obtain conservation easement on lands with occupied black-tailed prairie dog acreage in the general vicinity of the anticipated black-footed ferret reintroduction (to benefit black-footed ferret and black-tailed prairie dog)
- Survey for mountain plovers prior to ground disturbance and implement timing restrictions if nests found in accordance with most current guidance provided by the Service
- In coordination with the Service, replace habitat suitable for mountain plover nesting through creation of new habitat, purchase and improvement of existing habitat, or acquisition of conservation easements and improvement of habitat
- Control noxious weeds
- Develop mutually acceptable under- and overpass designs to protect wildlife, particularly big game
- Coordinate to develop adequate fencing standards
- Remove carcasses from the rail line right-of-way as part of normal rail line inspection and maintenance activities
- Minimize wetland disturbance and revegetate appropriately
- Stockpile and reuse topsoil
- Develop and implement a revegetation and restoration plan
- Develop and implement a mitigation plan for riparian areas and other areas not addressed in wetland mitigation
- Develop and implement a Spill Prevention, Control, and Countermeasure Plan

- Where possible, limit project-related traffic to temporary access roads within the right-of-way of established roads
- Limit use of temporary roads to project-related construction.

STATUS OF SPECIES

Listed Species/Critical Habitat:

Bald Eagle

On February 14, 1978, the bald eagle was listed as endangered in all of the conterminous United States except Minnesota, Wisconsin, Michigan, Oregon, and Washington, where it was classified as threatened (43 F.R. 6233). The Service reclassified the bald eagle from endangered to threatened throughout its range in the lower 48 states on July, 12, 1995 (60 F.R. 36000). The bald eagle was proposed for delisting on July 6, 1999 (64 F.R. 36454). Currently, the proposal has not been finalized or withdrawn.

Description

The bald eagle is a large, long-lived bird of prey. Adults have dark-brown bodies, white heads and white tails. This adult plumage is not acquired until age four at the earliest. Juveniles go through a series of plumages prior to achieving the adult coloration and in some plumages the young bear a superficial resemblance to golden eagles (*Aquila chrysaetos*).

Life History/Habitat Use

The eagle may live up to 45 years, achieve sexual maturity at 4 to 5 years, and produce 1 to 3 young per year. Publications by the U.S. Army Corps of Engineers (1979), Lincer et al. (1979), Brown and Amadon (1968), and U.S. Bureau of Land Management (1973) provide references on the biology of the species.

Bald eagles usually nest in trees near water, but are known to nest on cliffs and the ground. Nest sites are usually in large trees along shorelines in relatively remote areas that are free of disturbance (U.S. Fish and Wildlife Service 1999). The bald eagle typically lays a clutch ranging from 1 to 3 eggs which are incubated by both the male and female birds for approximately 35 days resulting in usually 1 or 2 eaglets produced by the pair (Stalmaster 1987). Typically, the recommended spatial buffer around nests for threatened and endangered raptors, including the bald eagle, is 1.0 mile (Romin and Muck 1999).

Survival of individual eagles, particularly those in their first year of life, probably depends heavily on conditions they encounter during the wintering period. The physiological condition of adults at the beginning of each breeding season, an important factor influencing reproductive success, also is affected by how well their energy demands are met in wintering areas. Thus, the

survival and recovery of nesting populations depends on the eagles having suitable locations to use throughout the wintering period each year (U.S. Fish and Wildlife Service 1983).

During migration and at wintering sites, eagles that concentrate on locally abundant food tend to roost communally. Communal roosts usually are located in stands of mature old growth conifers or cottonwoods, and roosts may be several miles from feeding sites. Wintering bald eagles occur throughout the Nation but are most numerous in the West and Midwest (U.S. Fish and Wildlife Service 1983). An abundant, readily available food supply in conjunction with one or more suitable night roost sites is the primary feature of winter habitat. Freedom from human disturbance is an important component of wintering habitat (Detrich 1978, Fitzner and Hanson 1979). Also, eagles prefer to forage in areas with the least human disturbance (U.S. Fish and Wildlife Service 1978, McGarigal et al. 1991).

The majority of wintering eagles are found near open water where they feed on fish and waterfowl, usually taking those which are dead, crippled, or otherwise vulnerable (U.S. Fish and Wildlife Service 1983, Lingle and Krapu 1986, Stalmaster and Associates 1990). In addition, eagles are known to feed on carrion, small mammals, and game birds (Lish 1975, U.S. Bureau of Reclamation 1981, Greater Yellowstone Ecosystem Bald Eagle Working Group 1983, Lingle and Krapu 1986, U.S. Department of Interior 1986). Lingle and Krapu (1986) found eagles consumed at least 50 species of fish, birds, and mammals along the North Platte and Platte Rivers during the winters of 1978-1979 and 1979-1980.

Large, live trees in sheltered areas provide a more favorable thermal environment and help minimize the energy stress encountered by wintering eagles. Communal roosting also may facilitate food-finding (Steenhof 1976) and pair bonding. The proximity of adequate night roosts to the other habitats required by wintering eagles, such as hunting perches and feeding sites, is important (Steenhof et al. 1980). In some locations, the absence of a suitable night roost may limit the use of otherwise suitable habitat. Freedom from human disturbance also is important in communal roost site selection (Steenhof et al. 1980, U.S. Bureau of Reclamation 1981, U.S. Fish and Wildlife Service 1986, Buehler et al. 1991). Continued human disturbance of a night roost may cause eagles to abandon an area (Hansen et al. 1981, Keister 1981).

Although eagle population studies have revealed that both reproduction and survival are important, changes in survival rates seem to have more effect on the population than similar changes in reproductive rates (Grier 1980). Hypothetical population modeling indicates it is possible for eagle populations with lower reproduction but adequate survival to do better than other populations with higher reproduction but poor survival. Adult eagles must prepare themselves for the next breeding season, and subadults and immature eagles must survive stressful environmental conditions. Therefore, maintaining and/or improving winter survival is crucial to eagle recovery (U.S. Fish and Wildlife Service 1978 and 1983).

Distribution

Historically, the bald eagle nested in at least 45 of the contiguous 48 states, with an estimated 250,000 - 500,000 bald eagles living on the North American continent before the first Europeans

arrived. The breeding range of the bald eagle was greatly diminished during the 19th and 20th centuries. Present-day breeding occurs primarily in northern California, Alaska, Oregon, Washington, Minnesota, Wisconsin, Michigan, Maine, the Chesapeake Bay area, Florida, the tri-state corner of Idaho, Montana, and Wyoming, and in parts of Canada. The Service estimated the breeding population exceeded 5,748 occupied breeding areas in 1998 (U.S. Fish and Wildlife Service 1999). Bald eagles winter throughout the country, but are most abundant in the West and Midwest.

Bald eagles occur year-round in Wyoming. Statewide surveys for nesting bald eagles were initiated in Wyoming in 1978 (Wyoming Game and Fish Department 1996). The Wyoming population has been increasing, and in 1994, 70 pairs attempted nesting, with a resultant 67 fledglings (Wyoming Game and Fish Department 1996). The greatest nesting concentration occurs in the Greater Yellowstone area. However, several breeding pairs also occur along major drainages throughout the State (Wyoming Game and Fish Department 1996).

In South Dakota, breeding bald eagles were documented for the first time in more than 100 years in 1993 when two birds fledged from a nest on the Missouri River at Karl Mundt National Wildlife Refuge¹. Additional nests have been found below Karl Mundt with a high of 8 nests in 2000. Wintering populations of bald eagles are found in three major areas of cottonwoods along the Missouri River in South Dakota, including the Pierre/Oahe Dam area, Karl Mundt National Wildlife Refuge/Fort Randall Dam area, and portions of the Missouri National Recreation River. Statewide, annual, mid-winter surveys conducted in January from 1963 through 1985 in South Dakota averaged 287 bald eagles per year. Winter surveys along the Missouri River in South Dakota between 1986 and 1999 have averaged 178 birds per year, with a high of 327 individuals in 1998.

Based on information from the 2000 Minnesota Bald Eagle Survey from the Minnesota department of Natural Resources, there are approximately 681 occupied breeding areas in Minnesota. Prime habitat includes large areas of mature forest near open water (lakes and rivers), the majority of which is located in the central and northern parts of the State, and along the Upper Mississippi River.

Status and Threats

Wyoming falls within the area of the Pacific Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service 1986). The primary objective of this area is to provide secure habitat for bald eagles within the 7-state Pacific recovery area and to increase population levels in specific geographic areas to the extent that the species can be delisted. One recovery criterion is to have stable or increasing wintering populations.

¹Unless otherwise indicated, all information regarding numbers of bald eagles in South Dakota taken from the November 30, 2000, Biological Opinion on the Operation of the Missouri River Main Stem Reservoir System, Operation and Maintenance of the Missouri River Bank Stabilization and Navigation Project, and Operation of the Kansas Reservoir System, prepared by the Service, Region 6 (Denver, CO) and Region 3 (Fort Snelling, MN).

South Dakota and Minnesota fall within the area of the Northern States Bald Eagle Recovery Plan (U.S. Fish and Wildlife Service 1983). The recovery goal for the Northern States Recovery Region is to reestablish a self-sustaining population and to have 1,200 occupied breeding areas by the year 2000. Delisting goals were met in 1991, with 1,349 occupied breeding areas distributed over more than 20 states and an estimated average productivity per nest since 1991 of greater than 1.0. In 1998, the estimated number of occupied breeding areas for the Northern State Recovery Region exceeded 2,200. One of the objectives of the Northern States Bald Eagle Recovery Plan is to protect and manage habitat and prey resources used by wintering bald eagles.

The decline in nesting populations during the 20th century has been attributed to habitat loss (identified as the most significant long-term threat to all bald eagle populations in the recovery area), environmental contamination, electrocution, shooting, poisoning, and trapping (U.S. Fish and Wildlife Service 1986). These problems still exist today and are a concern (N. Hartman, U.S. Fish and Wildlife Service, pers. comm.). Numerous cases of bald eagle and golden eagle poisoning have been caused by landowners unlawfully misusing pesticides and other chemicals for predator control.

By the late 1960's, the pesticide dichloro-diphenyl-trichlorethane (DDT) and its metabolites had caused widespread reproductive failures and resulted in drastic decreases in eagle numbers continent-wide (Sprunt et al. 1973, Wieneuyer et al. 1972). Other contaminants such as polychlorinated biphenyls and heavy metals such as mercury and lead may contribute to increased eagle mortality in some areas. The exact impact of DDT and other contaminants on Wyoming eagles is not known.

Secondary poisoning in eagles from eating lead-poisoned prey, particularly ducks and geese, was a concern identified in the early 1980's by Pattee and Hennes (1983). They reported that of 650 dead eagles, 7.2 percent probably died from lead poisoning. Their field evaluations in Missouri and Minnesota found 9-11 percent of digested eagle pellets contained lead shot. However, Lingle and Krapu (1988) found in a wintering eagle study (1978-1980) that cast pellets contained a small percentage (0.3 percent) of lead shot. Due to the use of nontoxic shot being phased in during the 1980's and now required in many areas across the nation, the potential for eagles to suffer ill-effects or death from lead shot ingestion has likely decreased.

Loss of eagle habitat due to land development and increasing human populations is a serious problem in some areas (U.S. Fish and Wildlife Service 1986). Increased human activity and various land developments can adversely affect the suitability of breeding and wintering habitats (Juenemann and Frenzel 1972, Lish 1975, Grubb and King 1991). Although actions or developments that detrimentally affect separate areas may not appear to be jeopardizing the species, the cumulative effect of many seemingly unimportant actions could be deleterious to eagles (U.S. Fish and Wildlife Service 1983).

Ute Ladies'-tresses

Ute ladies'-tresses orchid was listed as a threatened species on January 17, 1992 (57 F.R. 2048). Populations of the Ute ladies'-tresses occur in relatively low-elevation riparian meadows with

concentrations in three general areas of the interior western United States: the Wasatch Front and west desert of Utah, the Uinta Basin in Utah, and the Front Range of Colorado and Wyoming (U.S. Fish and Wildlife Service 1992). Ute ladies'-tresses was described by Sheviak (1984) based on material collected in Colorado and Utah. Previously, populations had been confused with other species of *Spiranthes* (U.S. Fish and Wildlife Service 1992).

Description

Ute ladies'-tresses is a perennial, terrestrial orchid with stems 20 to 50 cm tall arising from tuberously thickened roots. Its narrow leaves are about 28 cm long at the base of the stem and become smaller in size going up the stem. Flowers consist of few to many small white or ivory flowers clustered into a spike arrangement at the top of the stem (U.S. Fish and Wildlife Service 1992).

Life History/Habitat Use

Ute ladies'-tresses blooms from late July through August. However, depending on location and climatic conditions, orchids may bloom in early July or still be in flower as late as early October. The Ute ladies'-tresses is endemic to moist soils near wetland meadows, springs, lakes, and perennial streams. It occurs generally in alluvial substrates along riparian edges, gravel bars, old oxbows, and moist to wet meadows at elevations from 4,200 to 7,000 feet. The orchid colonizes early successional riparian habitats such as point bars, sand bars, and low-lying gravelly, sandy, or cobbly edges, persisting in those areas where the hydrology provides continual dampness in the root zone through the growing season. The species occurs primarily in areas where the vegetation is relatively open and not overly dense, overgrown, or overgrazed (Coyner 1989 and 1990; Jennings 1989 and 1990). Plants usually occur as small scattered groups and occupy relatively small areas within the riparian system.

Ute ladies'-tresses begins flowering at the end of July, although the inflorescence begins to emerge as early as June. Flowering duration depends upon moisture and light conditions, but may continue until early September. Reproduction appears to be strictly sexual with bumble bees as the primary pollinators (U.S. Fish and Wildlife Service 1995). Fruit set occurs in late August through September. At the end of the growing season, small rosettes often emerge at the base of the plants and persist through the winter months. Two or more plants may occur in clumps, but it is not known whether these clumps are single or multiple individuals.

Orchids often have very small seeds requiring specific symbiotic associations with mycorrhizal fungi for germination (Arditti cited in U.S. Fish and Wildlife Service 1995). Many species of *Spiranthes* are initially saprophytic, underground plants that persist for many years before leaves emerge above ground (*S. spiralis* takes 11 years from germination to green leaf production, with 8 years spent in the mycorrhizal stage) (U.S. Fish and Wildlife Service 1995). Ute ladies'-tresses may be similar to other species of *Spiranthes* which bloom less often than annually (*S. spiralis* plants rarely flower in consecutive years and *S. magnicamporum* may bloom as rarely as once in 20 years) (U.S. Fish and Wildlife Service 1995).

Distribution

Ute ladies'-tresses is currently known from western Nebraska, eastern Wyoming, north-central Colorado, northeastern and southern Utah, east-central Idaho, southwestern Montana, and north-central Washington (Moseley 1998). Rangewide the plant is now known from over 60 locations representing at least 30 populations (Fertig 2000).

Ute ladies'-tress is currently known from four sites in eastern Wyoming, including: a small population along a tributary to Antelope Creek (a tributary to the Cheyenne River) in northwest Converse County; a population along Bear Creek in southwestern Goshen County; a population along the Niobrara River near McMaster's Reservoir in southeastern Niobrara County; and, a population along Sprager Creek in Laramie County. These populations are monitored on a limited basis and appear to be stable. Mowing and grazing occur at two of the sites and appear to have only minor impacts on the populations.

Because of the plant's irregular flowering pattern, sites that have been surveyed with negative results in the past could still support populations (Mosely 1998). Fertig (2000) recommends high-quality sites be resurveyed periodically on the chance the species was not flowering or emergent during earlier visits.

Status/Threats

Due to the small size of most populations and the erratic population fluctuations noted within monitored populations, it is not known whether existing populations are demographically stable over the long term. The highly variable demographic structure from year to year of the species' largest known population may make it more vulnerable to extinction in years of low population numbers (U.S. Fish and Wildlife Service 1992). The species' low population numbers and restricted habitat make it vulnerable to natural or human-caused disturbances. Extant populations in eastern Wyoming and Colorado are typically very small and potentially vulnerable to habitat changes that could eliminate entire populations. Projects that affect the hydrology and vegetation of the species' riparian ecosystem may have a negative impact on the species (U.S. Fish and Wildlife Service 1992).

The Ute ladies'-tresses is believed to be extirpated from most of its historical range due to alterations of stream hydrography and hydrology. Hydrology of a stream is integral to the structure and function of the ecosystem (Busch and Scott 1995). Flow timing, flow quantity, and water table characteristics influence riparian vegetation (Pague and Grunau 2000). Specific levels of change in hydrology and how they effect Ute ladies'-tresses are not well understood, but Auble et al. (1994) did show significant vegetation changes after losses greater than 0.5 m in ground water levels. Channelized and depleted streams are no longer capable of creating the semi-open habitats or maintaining the hydrologic conditions that sustain damp rooting zones throughout the growing season. The Service believes recovery of the species will involve management of stream habitats to retain, recreate, or mimic natural hydrography and hydrology and related vegetation dynamics. Projects that alter natural hydrography and hydrology, change

the vegetation of the species' riparian ecosystem, or cause direct ground disturbance may affect the Ute ladies'-tresses where it is exists.

The plant is highly palatable and is preferentially grazed by small herbivores (Crain cited in U.S. Fish and Wildlife Service 1992). While excessive grazing is thought to be detrimental to the Ute ladies'-tresses, mild to moderate livestock grazing may be beneficial by reducing competing vegetation. Based on research involving habitat/population modeling by Arft (1995), the South Boulder Creek (Colorado) haymeadow colonies do not appear viable without human intervention. According to Arft's model, traditional winter grazing is necessary to maintain stable population growth and mowing, if timed according to orchid phenology (modified to occur earlier so not to damage growing orchids), may achieve the same results. At this population, grazing and irrigation serve to maintain the "natural" suitable conditions of reduced vegetative competition. However, depressed inflorescence and fruit production have been observed at sites that are grazed in late summer (Arft 1995 in Fertig 2000). The small size of the population of Ute ladies'-tresses located in Converse County, Wyoming, may be due to poor seed production resulting from grazing of fruiting stalks (Fertig 2000). Other examples of adverse effects associated with grazing have been noted, but the overall effect of grazing on Ute ladies'-tresses appears to be low (Fertig 2000). The relationship between grazing and the establishment of redbud (*Agrostis stolonifera*) and certain noxious weeds is poorly understood, as are the impacts of grazing and trampling on insect pollinators (Fertig 2000). Many of the known remaining populations of Ute ladies'-tresses are relict in nature, remaining in small areas where livestock grazing was less intense than in other riparian communities within the species' range (U.S. Fish and Wildlife Service 1992). Mowing can also be either beneficial by reducing competing vegetation or detrimental if done before fruit have ripened, or if the height of the cutting is too low, reduced fruit production may occur (Fertig 2000).

Coal mining has been a major influence in part of the range and may have adversely affected Ute ladies'-tresses habitat in some areas. Coal bed methane development may also be having an adverse effect on Ute ladies'-tresses. However, few surveys have been completed and no data have been collected to assess possible effects of coal bed methane development and associated discharges of produced water.

Proposed Species/Critical Habitat:

Mountain Plover²

The mountain plover was proposed for listing as a threatened species on February 16, 1999 (64 F.R. 7587). The mountain plover is a small bird, about the size of a killdeer (*Charadrius vociferus*) in the plover family (Family *Charadriidae*). The type specimen was collected in 1837 by J. K. Townsend on the Sweetwater River of Wyoming. There are no recognized subspecies.

² Unless otherwise noted, the information provided in this section was taken from the proposed rule to list the mountain plover as threatened under the Act (64 F.R. 7587).

Description

The mountain plover is a compact bird (about 7-9 inches long) with light brown above and paler underparts, lacking the contrasting dark breast bands typical of many other plover species. In flight, its underwings are white. Breeding plumage differs only by the addition of a dark line between the bill and eyes contrasting with a pale forehead. The bill is black, the legs are gray to light brown-yellow, feet are dark brown, and claws are black. The sexes are alike.

Life History/Habitat Use

The mountain plover is a migratory species of the shortgrass prairie and shrub-steppe eco-regions of the arid West. The universal characteristics of mountain plover habitat on both the breeding and wintering grounds are short vegetation, bare ground, and flat topography. They are found associated with plains, alkali flats, agricultural lands, cultivated lands, sod farms, and low shrubs at both breeding and wintering locales. Unlike other plovers, they are rarely associated with water.

Mountain plovers are insectivorous with beetles, grasshoppers, crickets, and ants as their principal food items (Rosenberg et al. 1991).

The nest of the mountain plover is a simple scrape on the ground, which may be lined with debris. Nests are usually placed in areas where vegetation is less than 4 inches in height, the amount of bare ground in the area exceeds 30%, and near a conspicuous object such as a manure pile or rocky area. In shortgrass prairie habitat, vegetation associated with nest sites includes *Bouteloua gracilis* (blue grama), *Buchloe dactyloides* (buffalo grass) and *Opuntia* spp. (prickly pear cactus). In shrub-steppe grasslands, vegetation around nests includes low-growing shrubs such as *Artemisia nova* (black sage) and *Atriplex gardneri* (Gardner saltbush) (Day 1994, Knopf 1996). Topography is typically flat or gently rolling. Nesting areas consistently have slopes less than 12% (Knowles et al. 1982, Parrish 1988, Beauvais and Smith 1999). Generally, "suitable mountain plover habitat" refers to areas containing these characteristics: low relief, vegetation generally less than 4 inches in height, and bare ground present and at least locally exceeding 30% of the area.

The breeding season begins soon after birds arrive in late March or early April. Breeding season displays involve different calls and flight displays, including "falling leaf" and pursuit flights to advertize territory occupancy and define boundaries between territories. Territories in Colorado are about 40 acres, and adjacent territories may overlap significantly along boundaries. Breeding plovers show close site fidelity, often returning to the same territory in subsequent years. Territories tend to be aggregated with several breeding pairs occurring within a few square miles surrounded by empty but apparently suitable habitat (Knopf 1996).

Nests may be initiated 1-2 weeks after arrival on the breeding grounds and the clutch of 3 eggs may take 3-12 days to complete. Incubation lasts approximately 29 days. In Colorado, egg-laying began April 15 on average, continuing through mid-June, with one late nest observed June 23. Adults were found to incubate or attend nests with increasing frequency and duration as the

incubation period continued. Nest attendance in Wyoming increased from approximately 50% of daylight hours early in incubation to approximately 100% within days of hatching (Laun 1957). Eggs appear highly resistant to chilling but susceptible to overheating in the sun due to their dark coloration (Knopf 1996).

Chicks leave the nest soon after the last egg hatches. Chicks are usually attended by one adult, brooded about one-third of the time for the first day. Daily movements of the broods may be extensive, with broods ranging over as much as 200 acres between hatch and fledging. Chicks fledge approximately 33 days post-hatch (Knopf 1996).

Known predators of adult mountain plovers are few. Kit fox (*Vulpes macrotis*) and prairie falcon (*Falco mexicanus*) are the only documented predators of adults. However, their ground nests are vulnerable to mammalian predators including the thirteen-lined ground squirrel (*Spermophilus tridecemlineatus*), swift fox, badger, and coyote, and possibly corvids (crows, ravens and magpies). Ground squirrels, coyotes, Swainson's hawks (*Buteo swainsonii*), prairie falcons, and loggerhead shrikes (*Lanius ludovicianus*) have been observed taking flightless young (Knopf 1996).

Species in the shorebird family are generally long-lived, with low annual reproductive rates and small clutch sizes. Available information on the mountain plover conforms to this pattern. Annual survival estimates for this species are unavailable, though over-winter survival is high, estimated at 0.9474 from a sample of 44 birds (Knopf 1996). Few data exist on the life span of the mountain plover, though one banded bird was recovered after 6 years.

Mountain plovers probably start breeding in their second year of life. Normal clutch size is 3, very rarely 4. Two-egg clutches probably result from predation of individual eggs. Birds are largely monogamous, though the pair bond is only maintained for a short period during breeding.

There is some evidence that at least some females lay two clutches, one brooded by the male and the other by the female, with this strategy common in some years (Knopf 1996).

Nest success has been estimated to vary from 26-65% between years and may be influenced by rainfall. Mountain plovers in Weld County, Colorado, fledged an estimated 0.26 and 1.4 young per nest in different studies between 1969 and 1974, though the higher estimate is believed to be biased by the exclusion of nests which totally failed (Knopf 1996).

Distribution

Mountain plovers occupy suitable breeding habitat in many of the Great Plains states from Canada south to Texas from late March through July. Flocks may form as early as mid-June prior to migration to wintering habitats in August through October. Wintering areas are concentrated in the Central Valley of California, Texas and Mexico. Historically, the mountain plover was considered numerous on breeding grounds in western and central Kansas and Oklahoma, as well as eastern Colorado and Montana. Additionally, the mountain plover was known to occupy western Nebraska and South Dakota. Mountain plovers have not been

observed in South Dakota since a Bennett County observation in 1977 (Lohoefer 1978). Prior to that time, the mountain plover was thought to be a rare breeder in the western part of South Dakota, perhaps as far east as Edgemont (South Dakota Ornithologists' Union 1991).

Approximately 1,500 birds are estimated to occur in Wyoming. Birds have been observed during the breeding season over much of the shortgrass prairie of the eastern parts of the State, with high densities reported in the Laramie Plains of northern Albany County and eastern Carbon County (Laun 1957, Johnson et al. 2000), Converse County (Parrish 1988), Laramie County (Graul 1975), Park County (U.S. Bureau of Land Management 1988), and Sweetwater County (Beauvais and Smith 1999). There are no wintering areas in Wyoming.

Status and Threats

The mountain plover was designated a category 2 candidate species on December 30, 1982 (47 F.R. 58458), meaning that the species may be declining but more information was needed. The Service elevated its status to category 1 candidate in the 1994 Animal Candidate Notice of Review (59 F.R. 58982), meaning that listing was warranted, but precluded by higher priority species. In 1996, the Service did away with candidate categories 2 and 3, redefining candidate species to include only former category 1 candidate species (61 F.R. 64481). The mountain plover was retained as a candidate species in the 1997 status review (62 F.R. 49298). The species was petitioned for listing as threatened on July 7, 1997. Due to its candidate status, no 90-day finding was required in response to this petition. On February 16, 1999, the Service gave notice of a proposal to list the mountain plover as a threatened species pursuant to the Act (64 F.R. 7587). A final listing decision on this species is pending.

Endemic grassland birds have declined more rapidly than other bird species, and the mountain plover's decline is greater than the other grassland endemics (Knopf 1994, Sauer et al. 1997). Available data indicate that population numbers of mountain plovers have declined range-wide by more than 50 percent since 1966 to fewer than 10,000 birds. The eastern extent of the range has been greatly reduced, possibly due to conversion of native prairie to cultivated agriculture as well as control of burrowing rodents. Mountain plovers are no longer known to breed in Canada or South Dakota.

Identified or suspected reasons for the decline include conversion of shortgrass and shrub steppe habitats, changes in range management to emphasize uniform grass cover, declines in native ungulates and burrowing animals, oil and gas development and associated road construction, and possibly population sinks created by certain agricultural practices. A population 'sink' (Pulliam 1988) is an area within the breeding range of a species or population where reproduction is not adequate to balance mortality, but population levels are maintained by immigration of breeders produced in a nearby 'source' area.

ENVIRONMENTAL BASELINE

Listed Species/Critical Habitat:

Bald Eagle

Bald eagles nest and winter in the project vicinity. Service data indicate the bald eagle nests in only six of the counties in which the proposed project is located. However, no nests are located in the vicinity of the railroad corridor. The Biological Assessment indicates nesting activity has been documented in Winona and Nicollet counties near the project area, although neither site is within 1 mile of the proposed rebuilding of the existing line. In fact, the proposed bypass in Mankato, Minnesota, would move the line farther from the nesting area. Historically, one nest occurred in the general project vicinity in Weston County, Wyoming, but the site is more than 1 mile from the route.

Sightings of bald eagles are common during the winter months in the project area, particularly at along the Missouri River in South Dakota and the Cheyenne River and its tributaries in western South Dakota and Wyoming. In South Dakota, bald eagles concentrate during the winter at roost sites along the Missouri River near Pierre. As many as 44 bald eagles have been documented using the roost sites within 3/4-mile of the existing tracks (U.S. Fish and Wildlife Service 1991). Use of the Suiter, Riverbank, and Compton roost sites occurs most often from November through March, with as many as 60 eagles using the areas (Scott Larson, U.S. Fish and Wildlife Service, pers. comm.). Additionally, information presented in the Biological Assessment (collected by Buffalo Gap National Grasslands staff) shows wintering bald eagle use scattered along the Cheyenne River in South Dakota, with one area of use identified within 1/4-mile of the proposed route. At least two bald eagle winter roost sites occur in the project area in Wyoming; the Antelope Creek bald eagle roost site located at T41N R70W S25 and the School Creek roost site in T 42N R69W S5. Due to the large proportion of private land within the project area which has not been surveyed, additional winter roost sites likely exist.

Bald eagles nesting and roosting along the Missouri River in the vicinity of Pierre have been impacted by encroaching development. Dense housing development occurs quite close to the roost sites in several areas, with less dense housing scattered throughout much of the general vicinity. Historically, the bald eagle nests and winter roosts in the Powder River Basin of Wyoming, as well as the westernmost portion of the project in South Dakota, have been affected by relatively few activities. Grazing has been the predominant land use in the area and has likely had only minimal effects on the eagles and their habitat, although some impacts to riparian areas may have occurred. Conventional oil and gas development has occurred in the Powder River Basin of Wyoming with 44 fields and 407 producing conventional wells in place as of 1996. More recently, coal bed methane development may have started having an adverse effect on the bald eagle. Drilling for coal bed methane in the Powder River Basin began in 1987. Since that time, more than 7,000 wells have been drilled with more than 4,000 of the wells in production. Additionally, the westernmost part of the project area (as the route approaches the mines in Wyoming) is heavily impacted by coal mining operations which involve significant human disturbance and habitat loss.

Ute Ladies'-tresses

Ute ladies'-tresses is not known from any sites in South Dakota or Minnesota. The population along a tributary to Antelope Creek in Converse County, Wyoming, occurs upstream of, but within the same USGS Hydrologic Unit as, the portion of the route that parallels Antelope Creek in northern Campbell County, Wyoming. This population was originally discovered in 1994 and has been censused several times since then. The population remains small (11-35 plants seen during various years). The habitat is considered marginal and the population is the least viable of the populations within Wyoming (Fertig 2000).

Few surveys for Ute ladies'-tresses have been conducted in the general vicinity of the project. As indicated in the November 1998 Powder River Basin Expansion Project Inventory for the Ute Ladies'-tresses (*Spiranthes diluvialis* Sheviak), it is probable that Ute ladies'-tresses could be found in the project area. The proposed route crosses four sites of habitat suitable for Ute ladies'-tresses and another six sites are potentially suitable but were not surveyed for suitability because access was denied. These surveys for habitat suitability were not meant to necessarily detect the presence of the plant at the sites, since they were not all detailed enough to detect the plants' presence and they were conducted late in the season during a year of conditions so unfavorable that known populations of the plant did not flower as in previous years. Even when surveys for the presence of the plant are conducted, verifying absence of the plant is difficult. Due to the ability of Ute ladies'-tresses to persist below ground for years before emerging, Roderick (1998) recommends surveys be conducted during more than a single season, particularly when drought conditions exist.

Human activities that have detrimentally affected Ute ladies'-tresses and continue to pose a threat include stream alterations such as channeling, diversions, culverts, and levees; wetland filling; gravel mining; and introduction of exotic or aggressive plant species. All of these activities have occurred in the past and are continuing, although less frequently. These activities have been documented to directly affect orchid colonies when they occur on site or may indirectly affect the orchids and their habitat when taking place upstream or adjacent to existing orchid colonies.

Direct herbivory of Ute ladies'-tresses by livestock and deer has been observed on occasion and may be considered to be detrimental. Some grazing outside of the Ute ladies'-tresses growing season has been shown to be beneficial by reducing competition. However, the small size of the population of Ute ladies'-tresses located near the project area may be due to poor seed production resulting from grazing of fruiting stalks (Fertig 2000).

Coal mining has been a major influence in the westernmost part of the project area (as the route approaches the mines) and has adversely affected Ute ladies'-tresses habitat in some areas. Coal bed methane development may also be having an adverse effect on Ute ladies'-tresses. The water produced by more than 4,000 wells in production (totaling 55,416 acre feet per year) may have altered hydrology significantly enough to affect Ute ladies'-tresses in some areas. However, few surveys have been completed and no data have been collected to assess possible effects of coal bed methane development and associated discharges of produced water.

Proposed Species/Critical Habitat:**Mountain Plover**

Mountain plovers are likely to be found on suitable habitat throughout the project area in Wyoming, and possibly in the most westerly portion of the route in South Dakota. Mountain plovers are most often associated with relatively flat (less than 12% slope), open short-grass prairie rangelands, often on or near prairie dog towns and other grazed areas. Plovers are also known to occur in sage-brush grasslands with sparse vegetation. Much of the Powder River Basin of Wyoming is characterized by level to gently rolling uplands dominated by sagebrush, with true short-grass prairie occurring in the southern portion of Campbell County (Postovit 2000). However, much of the project area in the Powder River Basin is not flat enough to be considered suitable habitat. Prairie dog towns are scattered throughout the project area in Wyoming and western South Dakota. Livestock grazing is the primary land use in this part of the project area, with some areas heavily grazed.

A number of mountain plover sightings and breeding observations have been recorded in the general vicinity of the project area occurring in the Powder River Basin of Wyoming. Coal mine monitoring data provide some indication of the suitability of habitat for and presence of mountain plovers in the Powder River Basin. The Caballo and Antelope mines have recorded mountain plover use. Although most of the permit area is not suitable habitat, plovers were documented using a saline grassy area within the Caballo mine permit area in 1992. Adult plovers were observed annually on black-tailed prairie dog towns within the North Antelope/Rochelle permit area from 1994 through 1998 (Howard Postovit, Powder River Eagle Studies, *in litt.* 1999). At the Antelope mine, breeding plovers have been documented on or near the mine in every year but one since 1982 (Postovit 2000). Additionally, Postovit (2000) indicates the vegetation in the area has been heavily impacted by intensive livestock grazing, thus producing abundant potential habitat for the plover at Antelope mine and, generally, in that sub-area of the Powder River Basin. Additionally, Thunder Basin National Grasslands has conducted surveys for mountain plovers since 1993, with plovers consistently observed and most often associated with prairie dog towns (Tim Byer, TBNG, pers. comm.). The project will intersect an estimated 17.5 miles of black-tailed prairie dog towns with approximately 424 acres converted to project right-of-way, some of which is likely to be occupied by mountain plovers.

Grazing is the primary land use in the western portion of the project area and appears to be compatible, and probably beneficial, to the plover. Coal mining has been a major influence in the westernmost part of the project area (as the route approaches the mines) and has adversely affected plover habitat in some areas in the Powder River Basin of Wyoming. Conventional oil and gas development has occurred in the Powder River Basin with 44 fields and 407 producing conventional wells in place as of 1996. More recently, coal bed methane development may have started having an adverse effect on the mountain plover. Drilling for coal bed methane in the Powder River Basin began in 1987. Since that time, more than 7,000 wells have been drilled with more than 4,000 of the wells in production. Possible adverse effects of these actions include direct mortality of birds, habitat destruction, displacement of birds, and lost reproductive output.

EFFECTS OF THE ACTION

Bald Eagle

Abandonment of winter roost sites may occur as a result of construction and operation of the project, particularly when the roost site is within a mile of the project. In Wyoming, Alternative C appears to pass near two known roost sites. The South leg Alignment of the "T" Alternative associated with Alternative C would pass south of and within 1 mile of the Antelope Creek bald eagle roost site in T41N R70W S25. It appears the Sunny Draw alignment of the south leg would result in the route passing more northwesterly of and more than 1 mile from the roost site. The closer alignment could result in abandonment of the roost site, particularly if construction activities occur between October 15 and March 31. Additionally, Alternative C passes within about 1 mile of the School Creek roost site in T 42N R69W S5. In South Dakota, use of the roost trees along the Missouri River at Pierre could possibly be affected by construction and operation activities, as the roost trees are less than 3/4 mile from the project. However, the roost sites near Pierre are surrounded by a significant level of human activity and the project in this area involves rebuilding of the existing line. Some of the birds using the site may be habituated to the activity, making them less likely to abandon their use of the area. Other birds may find the additional disturbance makes the site less desirable for use. Additional roost areas likely occur, particularly along the Cheyenne River in South Dakota and Wyoming, and may be affected if within 1 mile of the project.

If new power lines, temporary or permanent, will be constructed to support construction and/or operation of the railroad, the additional transmission lines and poles increase the probability of bald eagle mortalities as a result of electrocution and collision.

However, the most significant effect to bald eagles from the project is likely mortality associated with vehicular and train collisions. Bald eagles often forage on carcasses of other animals, particularly in the winter when aquatic food resources are not as readily available. If there is an increase in carcass availability as a result of collisions with automobiles and trains on the Powder River Basin Expansion project area, bald eagles may increase foraging activities on the project area. Foraging on carcasses will result in an increased chance of mortality via vehicular and train collision if bald eagles forage on animals killed by vehicle or rail traffic associated with the project.

Increased carrion availability along railroad tracks has been documented in several studies, as well as through anecdotal observations. For example, Woods and Munro (1996) indicated wildlife rail-kills were frequent, but highly variable from place to place, along the Canadian Pacific Railway. In the Netherlands, wildlife mortality due to collisions with trains is recognized, although the extent of the problem is not known since numbers are based only on incidental reports (van der Grift and Kuijsters 1998). The WGFD found heavy use along the entire proposed right-of-way within Wyoming by antelope and pockets of heavy use by mule deer, with substantial north-south movement in spring and fall. Additionally, large groups of

antelope were commonly sighted along a corridor near U.S. Highway 85, Black Thunder Creek, and east of the Rochelle Hills (Bill Wichers, Wyoming Game and Fish Department, *in litt.* 2000). It is likely many of these animals may be struck by trains.

Mammalian carrion is an important alternate winter food source for bald eagles in many places (USFWS 1986). Harmata et al. (1999) found bald eagles to be associated with temporal concentrations of prey and carrion. Additionally, the Biological Assessment provides excellent discussion of bald eagle use of livestock and big game carrion in Wyoming (with some documentation from the Powder River Basin), including big game killed by trains and vehicles.

The Service acknowledged the potential for carcasses on railroad tracks to lead to eagle mortality or injuries during recovery planning for the bald eagle (USFWS 1996). Studies have documented train collisions as a source of mortality to bald eagles (Wells et al. 1999, Stone et al. *in prep.*). Anecdotal information also confirms eagle mortality associated with train collisions. The Biological Assessment indicates such bald eagle mortality has been recorded elsewhere in Wyoming. In Montana, mortality of both golden and bald eagles from train collisions has been documented (Dennis Flath, Montana Fish, Wildlife, and Parks, pers. comm.). Raptor rehabilitators in the Casper, Wyoming, area have dealt with at least one bald eagle and one golden eagle struck by Union Pacific trains (Tim Byer, U.S. Forest Service, pers. comm.). A case of a golden eagle hit by a train while feeding on an antelope has been documented in Wyoming, although there is no information available regarding the level of mortality of bald eagles associated with train collisions (Bob Oakleaf, Wyoming Game and Fish Department, pers. comm.). Van der Grift and Kuijsters (1998) reported 57% of the train-collision wildlife mortality in their study was birds, with raptors frequently reported. They believed birds of prey to be more susceptible to this mortality. Stone et al. (*in prep.*) indicated that eagles and other wildlife appear to have difficulty in recognizing the threats posed by objects moving faster than prey, predators or themselves. Additionally, they found immature bald eagles to be more vulnerable to being struck by trains, possibly due to their propensity to scavenge and a lack of wariness and agility found in adult bald eagles.

Bald eagles are also frequently killed by collisions with automobiles. Wyoming road mortality information from 1996 through 2000 identified 10 bald eagles killed by vehicles in accidents with more than \$500 damage reported (Wyoming Department of Transportation, unpublished data). However, the WGFD receives reports of approximately a dozen bald eagles killed by vehicles each year (Bob Oakleaf, Wyoming Game and Fish Department, pers. comm.). Harmata et al. (1999) documented 7% of the bald eagle mortality observed during their study was a result of collisions with vehicles.

Mortality of wintering bald eagles is the greatest concern, since most eagles in the project vicinity are wintering birds. Stone et al. (*in prep.*) found bald eagle mortality associated with train collisions occurred during the fall migration and winter periods. Woods and Munro (1996) found most collision-caused mortality of various wildlife species occurs during the winter. Given the potential increased availability of carcasses on the tracks and the bald eagles' frequent use of carrion, it is likely there will be an increase in wintering bald eagle mortality and injury

from collision associated with increased train use of the existing line and operation of the new line, as well as an increase in collisions with vehicles during construction activities.

Ute ladies'-tresses

As indicated in the August 2000 Biological Assessment, the project may have adverse effects to the Ute ladies'-tresses, including the possible loss of populations or portions of populations during construction and operation of the railroad, effects from the potential introduction of noxious weeds, and loss of plants to herbicide spraying during maintenance. The proposed route crosses four sites of habitat suitable for Ute ladies'-tresses and another six sites of potentially suitable habitat that were not surveyed for suitability because access was denied. Alternative C, with the two possible variations, will affect minimum of 18 acres, and possibly as much as 23 acres, of habitat suitable for Ute ladies'-tresses. If the plant is present, loss of the entire population may occur if there is surface disturbance in the plant's habitat. Although the wetland topsoil will be stockpiled and later used, the loss of all or part of Ute ladies'-tresses root stock and seed bank is possible. Additionally, subtle changes to the hydrology of the river channel may cause changes in the suitability of the habitat for Ute ladies'-tresses outside the immediate project area. Attachment B of the Clean Water Act 404(b)(1) Showing Document identifies erosion, sedimentation, and alteration of water circulation patterns as potential results of construction activities.

Proposed Species

Mountain Plover

Given the commitment to survey for mountain plovers and re-schedule work to avoid the breeding season if any mountain plover nests or broods are found, the likelihood of ground-disturbing activities (including construction of roads, new track, and ancillary facilities) causing direct lethal take of plovers is discountable. However, increased traffic to and from construction sites may cause direct take through collisions with vehicles. Mountain plovers prefer areas of low vegetation and bare ground. They are often attracted to roads for feeding. Mountain plovers are known to lead broods onto roads to forage at night (Laun 1957, Ellison et al. 1999). Direct loss of chicks or even adults to vehicle collisions may increase where increasing traffic volumes or travel speeds correspond with concentrations of nesting and brood-rearing activity, especially along unpaved roads with adjacent sparse vegetation.

Disturbance leading to loss of reproductive potential may occur in several ways. Different effects to nesting plovers are likely depending on the onset, duration, and frequency of human disturbance. Aside from direct take of nests, chicks, and adults through vehicle collision, human disturbance may cause direct loss of eggs or chicks if attending mountain plover adults are displaced long enough to expose the eggs or chicks to excessive heating, chilling, or risk of predation.

If disturbance occurs more frequently than weekly through the breeding season, nesting birds may be displaced and may initiate nests a secure distance from the disturbed area. While this

may reduce the amount of nest failure from disturbance, it may nonetheless result in reduced plover reproduction if plovers are displaced to less suitable nesting areas, resulting in lost breeding potential.

If disturbance begins after the onset of nesting or occurs at intervals greater than 2 weeks apart, birds may have already initiated nesting within the disturbance area. Then, human activity causing displacement of incubating adults from active nests may result in addling eggs due to extremes of temperature or destruction of eggs by predators. During incubation, the mountain plover is fairly insensitive to human disturbance from vehicles as close as 3 meters but may be displaced from the nest by a human on foot at a much greater distance. Eggs or newly hatched chicks may also be crushed by vehicle traffic at any speed.

Human disturbance is especially problematic where human activity has created disturbed areas attractive to nesting mountain plovers. In Utah, mountain plovers have been found to nest as close as 6 m from open roads or operating oil well pads (Ellison et al. 1999), presumably attracted by the abundance of bare soil. Creation of apparently suitable habitat with high levels of human disturbance may actually attract breeding plovers to an 'ecological trap' (Pulliam 1988) where nests are initiated but fail due to disturbance and reproductive effort is wasted.

In addition to activities that may lead to direct mortality of adults or young, and reduced production, several factors may lead to indirect mortality. The eggs and young, and to a lesser extent adults, are susceptible to a number of avian and mammalian predators. These include corvids (ravens, magpies, crows), birds of prey (hawks and owls), coyotes, badgers, weasels, and foxes. These predators may benefit from human activities in a number of ways. An increase in carrion available along roads associated with construction activities or along the track during operation may provide a new food supply for both avian and mammalian predators, most of which are also scavengers. This new food source may increase predator population size and may also extend their range into previously uninhabited areas, leading to higher rates of predation on mountain plover eggs, chicks, and even adults. Such an ecological relationship has been demonstrated in the Mojave Desert of California. Increases in roads and traffic have extended the range of avian predators (common raven and red-tailed hawk) exposing young desert tortoises (*Gopherus agassizii*) to much higher rates of predation than before development (Knight et al. 1993, Knight and Kawashima 1993). Additionally, power poles, fence posts, and other elevated structures may provide new hunting perches and nest sites for avian predators, increasing their hunting effectiveness and range. Buildings, trailers, and other permanent structures may provide safe den sites for mammalian predators. Research on the more well-studied sage grouse (*Centrocercus urophasianus*) has demonstrated that birds avoid elevated perch sites, including powerlines and fence posts by as much as ½ mile (Braun 1998). Mountain plover adults, chicks, and eggs live in the same environment and suffer the same predators, therefore these structures may adversely affect their behavior similarly and reduce habitat suitability.

Mountain plovers show high site fidelity to breeding territories between years and the persistence of breeding concentrations may be more important than mere availability of apparently suitable habitat for the persistence of the mountain plover. The necessity of social facilitation for effective breeding has been demonstrated in a number of avian species. Habitat degradation

occurring outside of the breeding season may cause take in the form of harm by causing abandonment of historically used breeding areas, though no direct take of plovers, eggs, or chicks occurs. Harm would result if removal or degradation of nesting habitat on historically used sites resulted in loss of breeding capability upon the birds' return, and/or resulted in loss of the pair for lack of available feeding or nesting habitat. Development activities, including construction of roads and the track, that degrade habitat in historically used breeding areas could have this effect, whether or not they occur during the breeding season. Human activity associated with project development and operation in historically used breeding areas may harass nesting birds enough to cause them to abandon the breeding area, particularly if disturbance extends over more than one breeding season.

The key issue is whether or not birds displaced by project activities will move to new areas and successfully breed. Currently, information is inadequate to answer this question. While unoccupied areas meeting our understanding of suitable habitat exist, this could mean either that science has not accurately described suitable plover breeding habitat and these areas are not actually suitable, or that they are suitable and the mountain plover is currently not limited by availability of breeding habitat. Until the question is resolved the prudent management approach must be to identify and protect all breeding concentrations of the species.

CUMULATIVE EFFECTS

Cumulative effects include the effects of future State, tribal, local or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future Federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to section 7 of the Act.

The cumulative effects are difficult to quantify for several reasons. The project area includes urban areas, as well as rural areas. In urban areas, development is likely to have an effect on bald eagles where they are present. While some future construction will likely be subject to section 7 consultation, other future direct and secondary impacts to the bald eagle and its habitat can be anticipated as a result of development. Secondary effects may include those associated with stormwater discharge from developed areas, increases in noxious weeds and human activity, including recreational use of riparian areas.

In more rural areas, the data are typically not adequate to determine the distribution and abundance of the bald eagle, Ute ladies'-tresses, or mountain plover on private lands. Likewise, there are no accurate estimates of suitable habitat for these species on private lands, though such habitat likely occurs throughout parts of the project area, particularly the western part. For this reason, the extent of cumulative effects to the species is difficult to quantify.

Farming and ranching operations may expand into areas not currently impacted by these activities. Expanded haying of meadows in areas closer to streams or increased intensity of grazing during certain seasons may adversely affect Ute ladies'-tresses and bald eagles, but would likely not be subject to section 7 consultation.

In the Powder River Basin of Wyoming, because surface ownership is primarily private and half the oil and gas rights are privately owned, many new wells and many miles of roads and pipelines are reasonably certain to occur on private lands. This is evidenced by the current and historic rates of coal bed methane development on private land throughout the Powder River Basin. However, some of the gas development activities on non-Federal land will require grants of right-of-way from the Bureau of Land Management for access and are, therefore, inter-related and inter-dependent to the right-of-way grants and subject to review under section 7 of the Act. It is likely the rate of oil and gas development on private lands will be similar to that occurring on Federal lands.

CONCLUSION

Listed Species/Critical Habitat:

Bald Eagle

After reviewing the current status of the bald eagle; the environmental baseline for the action area; the effects of the Powder River Basin Expansion Project; and, the cumulative effects, it is the Service's biological opinion that the direct and indirect effects of the Powder River Basin Expansion Project are not likely to jeopardize the continued existence of the bald eagle. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has reached this conclusion by considering the following:

- 1) The bald eagle has experienced significant recovery across its range since the banning of DDT.
- 2) The project area encompasses a relatively small amount of the bald eagle's entire range.
- 3) The westernmost portion of the project area (the new build section) supports no bald eagle nests. Therefore, nesting is not likely to be adversely affected.
- 4) A relatively small number of roosts sites will potentially be adversely affected by the project.
- 5) Construction, the activity most likely to adversely affect the birds, will be of a short duration.
- 6) The anticipated level of mortality associated with vehicle and train collisions will be relatively low and should not result in a significant effect to the population.
- 7) Some bald eagles using the project area will likely habituate to the routine disturbance associated with the operation of the railroad.

Ute Ladies'-tresses

After reviewing the current status of the Ute ladies'-tresses; the environmental baseline for the action area; the effects of the Powder River Basin Expansion Project; and, the cumulative effects, it is the Service's biological opinion that the direct and indirect effects of the Powder River Basin

Expansion Project are not likely to jeopardize the continued existence of the Ute ladies'-tresses. No critical habitat has been designated for this species, therefore, none will be affected.

The Service has reached this conclusion by considering the following:

- 1) Given the general characteristics of the project area within the range of the Ute ladies'-tresses, only a limited amount of suitable habitat will be affected by the project.
- 2) While the project area is relatively large, it is not part of one of the three major areas of known Ute ladies'-tresses concentrations.

Proposed Species/Critical Habitat:

Mountain Plover

After reviewing the current status of the mountain plover; the environmental baseline for the action area; the effects of the Powder River Basin Expansion Project; and, the cumulative effects, it is the Service's conference opinion that the direct and indirect effects of the Powder River Basin Expansion Project (loss of some breeding habitat and potentially a few individuals) are not likely to jeopardize the continued existence of the mountain plover. No critical habitat has been proposed for this species, therefore, none will be affected.

The Service has reached this conclusion by considering the following:

- 1) Mountain plovers are widely distributed throughout their breeding range, with the current population estimated at 10,000 individuals (U.S. Fish and Wildlife Service 1999). The loss of a few individuals or nests would be a relatively minor impact.
- 2) Habitat for the plover is present along the western portion of the route, but highly scattered throughout the project area.

INCIDENTAL TAKE STATEMENT

Section 9 of the Act and Federal regulation pursuant to section 4(d) of the Act prohibit the take of endangered and threatened species, respectively, without special exemption. Take is defined as to harass, harm, pursue, hunt, shoot, wound, kill trap, capture or collect, or to attempt to engage in any such conduct. Harm is further defined by the Service to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering. Harass is defined by the Service as intentional or negligent actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns which include, but are not limited to, breeding, feeding or sheltering. Incidental take is defined as take

that is incidental to, and not the purpose of, the carrying out of an otherwise lawful activity. Under the terms of section 7(b)(4) and section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered to be prohibited taking under the Act provided that such taking is in compliance with the terms and conditions of this Incidental Take Statement.

The measures described below are non-discretionary, and must be undertaken by the Board so that they become binding conditions of any grant or permit issued, as appropriate, for the exemption in section 7(o)(2) to apply. The Board has a continuing duty to regulate the activity covered by this incidental take statement. If the Board (1) fails to assume and implement the terms and conditions or (2) fails to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit or grant document, the protective coverage of section 7(o)(2) may lapse. In order to monitor the impact of incidental take, the Board must report the progress of the action and its impact on the species to the Service as specified in the incidental take statement. [50 CFR 402.14(i)(3)].

Sections 7(b)(4) and 7(o)(2) of the Act generally do not apply to listed plant species. However, limited protection of listed plants is provided to the extent that the Act prohibits the removal and reduction to possession of Federally listed plants, the malicious damage of endangered plants on areas under Federal jurisdiction, or the destruction of endangered plants on non-federal areas in violation of State law or regulation or in the course of any violation of a State criminal trespass law.

AMOUNT OR EXTENT OF TAKE

Listed Species

Bald Eagle

The Service anticipates four bald eagles could be lethally taken as a result of this proposed action. This incidental take is expected to occur as a result of electrocution or collision as a result of the new transmission lines associated with project features or vehicular or train collisions as the birds are foraging near project area roads or on the track itself. There may also be the loss of the use of two roosting areas resulting in take in the form of harm or harassment as a consequence of increased disturbance near roosting areas and the cumulative effects of greatly increased human activity in parts of the project area.

Proposed Species

Mountain Plover

Direct lethal take of adult mountain plovers or chicks may occur through vehicle collision. The likelihood of vehicle collision is highest during construction, but remains elevated through

operation. Destruction of nests could result from vehicle traffic on an infrequent basis. Displacement of adults from nests or broods long enough to cause take of eggs or chicks through exposure to the elements or predators may occur, especially if people will be nearby on foot for many hours. Indirect lethal take, especially of eggs and chicks, may also occur through increases in predator abundance due to increased food sources in the form of carrion caused by vehicle and train collisions.

The Service anticipates such lethal take of the mountain plover will be difficult to detect due to the cryptic nature of eggs and chicks, the dispersed nature of breeding birds, the lack of current distribution data on the project area, the rapidity with which carcasses are scavenged, and difficulty of measuring increased mortality of adults, eggs or chicks as a result of increased predator abundance during construction and operation of the project.

Information on the distribution and abundance of the mountain plover in the project area is currently inadequate to determine the number of birds that may be affected by the project. Given this lack of information, it is impossible to determine the extent to which development activities may cause lethal take, therefore the amount of direct lethal take cannot be quantified at this time.

Displacement of breeding birds from known nesting areas to less suitable nesting habitat may occur due to habitat alteration (harm) and human activity (harassment) associated with track construction and ongoing operation. Where increased predator abundance occurs, nesting plovers may be displaced to nest in less suitable habitat. Abandonment of previously occupied breeding aggregation areas due to habitat degradation may result. Loss of such a formerly used site would constitute take in the form of harm or harassment and must be anticipated.

Data on the current distribution on and use of the analysis area by breeding mountain plovers are sparse and inadequate to reasonably estimate potential project impacts. Given this lack of information, it is impossible to determine the extent to which development activities may cause take through harm or harassment, therefore the amount of such take cannot be quantified at this time.

Apparently suitable but unoccupied mountain plover habitat is scattered across the western portion of the project area and therefore disturbance to suitable habitat is a poor indicator of the likelihood of direct lethal take and provides no measure of incidental take in the form of harm or harassment. Once surveys have been conducted and if no mountain plovers are found, areas of apparently suitable but unoccupied habitat will receive no special protection for plovers, unless subsequently identified as necessary for mountain plover survival and/or recovery in a recovery plan or as a component of critical habitat for the species. Conversely, if the birds are found to use the area, potential impacts and the amount of incidental take can then be quantified and measures to reduce or avoid take implemented.

EFFECT OF THE TAKE

Listed Species

Bald Eagle

In the accompanying biological opinion, the Service determined that this level of anticipated take of the bald eagle is not likely to result in jeopardy to the species or destruction or adverse modification of critical habitat.

Proposed Species

Mountain Plover

In the accompanying conference opinion, the Service determined that this level of anticipated take of mountain plovers is not likely to result in jeopardy to the species or destruction or adverse modification of proposed critical habitat.

REASONABLE AND PRUDENT MEASURES

The Service believes the following reasonable and prudent measures are necessary and appropriate to minimize impacts of incidental take of bald eagles and mountain plovers. For the mountain plover, the prohibitions against taking the species found in section 9 of the Act do not apply until the species is listed. However, the Service advises the Board to consider implementing the following reasonable and prudent measures as they pertain to the mountain plover. If this conference opinion for the mountain plover is adopted as a biological opinion following a listing or designation, these measures, with their implementing terms and conditions, will be nondiscretionary.

Bald Eagle and Mountain Plover

1. Ensure implementation of all conservation measures identified and committed to as part of the action (outlined above in Project Description and more fully described throughout the Biological Assessment, Draft Environmental Impact Statement, and the February 26, 2001, letter from Holland and Hart to the Service identifying those measures the applicant has committed to implement to minimize and mitigate adverse effects to listed, proposed, and candidate species).
2. Ensure direct habitat disturbance does not exceed that discussed in the Biological Assessment and evaluated in this Biological/Conference Opinion. Through minimization and monitoring of direct habitat disturbance, indirect disturbance to the species will also be minimized.

Bald Eagle

3. Reduce the possibility of vehicular and train collisions with bald eagles, including reducing the amount of carrion present as a result of vehicular collision to discourage foraging by bald eagles.
4. Reduce the likelihood of disruption of roosting activities.

Mountain Plover

The following reasonable and prudent measures are designed first to avoid direct impacts to nesting mountain plovers through activity-specific nest searches, and second, to avoid or minimize impacts to known nesting aggregations by 1) avoiding or minimizing direct and indirect take of adults, eggs, or chicks on these areas, and 2) avoiding the abandonment of nesting aggregation areas.

5. Locate nesting areas, prevent direct take and minimize indirect take within them.
6. Avoid abandonment of nesting areas.
7. Reduce the possibility of vehicular collisions with mountain plovers.
8. Limit increases in predator abundance in the vicinity of known plover nest sites.

TERMS AND CONDITIONS

In order to be exempt from the prohibitions of section 9 of the Act, the Board must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline required reporting/monitoring requirements. These terms and conditions are nondiscretionary.

Bald Eagle and Mountain Plover

1. In the event that a bald eagle (dead or injured) or mountain plover (dead or injured) is located during construction and operation, the appropriate Service Field Office and Service Law Enforcement Office will be notified within 24 hours. In Wyoming, contact the Service's Wyoming Field Office (307-772-2374) and the Service's Wyoming Law Enforcement Office (307-261-6365). In South Dakota, contact the Service's South Dakota Field Office (605-224-8693) and the Service's South Dakota Law Enforcement Office (605-330-4318). Because of difficulty in identification, all birds found dead should be stored in a freezer for the Service to identify.
2. The Board shall monitor the acreage of disturbance of bald eagle and mountain plover habitat associated with the proposed project. Disturbed bald eagle habitat will be considered the area

directly or indirectly affected by the project and within 1 mile of a nest or a winter roost site. Disturbed mountain plover habitat will be considered the area directly or indirectly affected by the project and within 1/4-mile of suitable mountain plover habitat. Acreage of occupied and unoccupied mountain plover habitat should be tracked separately. The actual measurement of disturbed habitat can be the responsibility of the Board's agent (consultant, contractor, etc.) with a written summary provided to the Service's Wyoming Field Office upon project completion, or immediately if the anticipated impact area is exceeded.

3. The Board shall require the use of the least palatable native species possible when revegetating disturbed areas along the right-of-way to preclude attraction of big game species into the area. Coordination with the WGFD will be necessary to identify those species to be used during revegetation.

4. To minimize big game mortality from collisions, the Board shall coordinate with the WGFD and implement recommendations regarding the design and placement of under- and overpasses, as well fence designs.

5. The Board shall review information regarding train-wildlife collisions along the track (information from the carcass removal during operation and maintenance, anecdotal information from DM&E employees, WGFD data, etc.) to identify areas of highest availability of carrion. In coordination with the WGFD and the Service, the Board shall determine if further measures are needed to reduce the number of collisions and implement all feasible measures.

6. The Board shall require implementation of all conservation measures/mitigation measures described throughout the Biological Assessment, Draft Environmental Impact Statement, and the February 26, 2001, letter from Holland and Hart to the Service identifying those measures the applicant has committed to implement to minimize and mitigate adverse effects to listed, proposed, and candidate species. The Board shall monitor for compliance with the measures. These measures are as follows:

- Financially aid raptor rehabilitation efforts through a \$5000 contribution to a rehabilitation facility, as well as reimbursement for rehabilitation costs associated with birds of prey injured by the DM&E operations
- Obtain conservation easement on occupied Ute ladies'-tresses habitat
- Acquire lands or obtain conservation easement on lands with occupied black-tailed prairie dog acreage in the general vicinity of the anticipated black-footed ferret reintroduction (to benefit black-footed ferret and black-tailed prairie dog)
- Survey for mountain plovers prior to ground disturbance and implement timing restrictions if nests found in accordance with most current guidance provided by the Service
- In coordination with the Service, replace habitat suitable for mountain plover nesting through creation of new habitat, purchase and improvement of existing habitat, or acquisition of conservation easements and improvement of habitat
- Control noxious weeds

- Develop mutually acceptable under- and overpass designs to protect wildlife, particularly big game
- Coordinate to develop adequate fencing standards
- Remove carcasses from the rail line right-of-way as part of normal rail line inspection and maintenance activities
- Minimize wetland disturbance and revegetate appropriately
- Stockpile and reuse topsoil
- Develop and implement a revegetation and restoration plan
- Develop and implement a mitigation plan for riparian areas and other areas not addressed in wetland mitigation
- Develop and implement a Spill Prevention, Control, and Countermeasure Plan
- Where possible, limit project-related traffic to temporary access roads within the right-of-way of established roads
- Limit use of temporary roads to project-related construction.

Bald Eagle

7. Power lines (temporary or permanent) shall be built to standards identified by the Avian Power Line Interaction Committee (1996) to minimize electrocution potential.
8. A minimum disturbance-free buffer zone of 1/2 mile will be established for all bald eagle roost sites. This buffer zone may be adjusted based on site specific information through coordination with and with written concurrence of the Service.
9. A seasonal disturbance-free zone of 1 mile will be established for all bald eagle roosts (November 1 - March 30). This buffer zone and timing may be adjusted based on site specific information through coordination with and with written concurrence of the Service.
10. Speed limits on all roads constructed in association with the project will not exceed 35 mph and shall be enforced on all access roads associated with the project.
11. Bald eagle mortality will be monitored and reported to the Service annually. A monitoring plan will be developed prior to onset of construction in coordination with DM&E, the Service, and WGFD and will be subject to the approval of the Service.

Mountain Plover

12. No ground-disturbing activities shall occur in suitable nesting habitat prior to surveys conducted in compliance with the Service's Mountain Plover Survey Guidelines (enclosed) regardless of the timing of the disturbance. If occupied mountain plover nesting habitat is located, the Board shall reinitiate section 7 consultation or conferencing with the Service on any project-related activities proposed for such habitat or within 1/4 mile of such habitat. The amount and nature of ground-disturbing activities shall be

limited within and adjacent to identified nesting areas in a manner to minimize the likelihood of abandonment of these areas.

13. A disturbance-free buffer zone of 1/4 mile will be established around all mountain plover nesting locations between April 1 and July 31. This buffer zone and timing may be adjusted based on site specific information through coordination with and with written concurrence of the Service.
14. Roads will be located outside of nesting plover habitat wherever possible. Speed limits on all roads constructed in association with the project will be 35 mph and 25 mph within 1/2 mile of identified nesting areas.
15. Native seed mixes will be used to re-establish short grass prairie vegetation outside of the right-of-way during reclamation.
16. Road-killed animals shall be removed from areas within 1/2-mile of identified plover nesting areas to avoid attracting avian and mammalian predators. If possible, work schedules and shift changes should be set to avoid the periods from 1/2-hour before to 1/2-hour after sunrise and sunset during June and July, when mountain plovers and other wildlife are most active.
17. No dogs will be permitted at work sites to reduce the potential for harassment of plovers.

The reasonable and prudent measures, with their implementing terms and conditions, are designed to minimize the impact of incidental take that might otherwise result from the proposed action. If, during the course of the action, this level of incidental take is exceeded, such incidental take represents new information requiring reinitiation of consultation and review of the reasonable and prudent measures provided. The Board must immediately provide an explanation of the causes of the taking and review with the Service the need for possible modification of the reasonable and prudent measures.

COORDINATION OF INCIDENTAL TAKE STATEMENTS WITH OTHER LAWS, REGULATIONS, AND POLICIES

The Fish and Wildlife Service will not refer the incidental take of mountain plovers or bald eagles for prosecution under the Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703-712), or the Bald and Golden Eagle Protection Act of 1940, as amended (16 U.S.C. 668-668d), if such take is in compliance with the terms and conditions specified herein.

CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the Act directs Federal agencies to utilize their authorities to further the purposes of the Act by carrying out conservation programs for the benefit of endangered and

threatened species. Conservation recommendations are discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery plans, or to develop information.

1. The Board should monitor all disturbed areas to ensure noxious weeds do not become established in the vicinity of habitat suitable for bald eagle, mountain plover, or Ute ladies'-tresses and take appropriate actions to control such weeds should they become established.
2. Herbicide use should be limited in all areas of potential Ute ladies'-tresses habitat.
3. Surveys of all suitable habitat within the project area and all adjacent drainages should be conducted for Ute ladies'-tresses to determine the status of this species in the general vicinity.
4. All existing powerlines and other transmission lines within the foraging areas of bald eagles and mountain plovers using the project area and surrounding habitat should be reconstructed to the standards of the Avian Power Line Interaction Committee (1994, 1996), if they do not already meet those standards.
5. Cottonwood regeneration should be encouraged along riparian areas through reduction, modification and/or removal of domestic grazing, recreational use, or mineral extraction, if those activities are identified as being a cause of lack of regeneration.
6. Speed limits for railroad traffic should be limited to 20 miles per hour in areas of mountain plover nesting or bald eagle roosting and nesting.
7. Surveys in and around the western part of the project area should be conducted for mountain plovers (both nesting and brood rearing activities) to provide an estimate of population numbers in the area, availability of suitable habitat, and possible impacts of various activities on this species.
8. Develop reclamation methods suitable to meet all requirements for soil stability and weed control while providing suitable breeding habitat for mountain plovers. Currently, the techniques for reclamation of disturbed sites produce tall and dense stands of species such as thick-spike wheatgrass (*Elymus dasystachyum*), unsuitable for nesting mountain plovers. Develop cost-effective cultivation techniques for low-growing and vigorous species native to the analysis area that will quickly reproduce suitable habitat for breeding mountain plovers where it previously occurred.

In order for the Service to be kept informed of actions minimizing or avoiding adverse effects or benefitting listed species or their habitats, the Service requests notification of the implementation of any conservation recommendations.

REINITIATION NOTICE

This concludes formal consultation and conferencing on the actions outlined in the August 2000 Biological Assessment regarding the Dakota, Minnesota, and Eastern Railroad Construction Proposal in south-central Minnesota, southwest South Dakota, and east-central Wyoming. As provided in 50 CFR §402.16, reinitiation of formal consultation is required where discretionary Federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

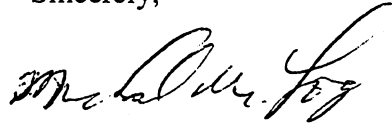
You may ask the Service to confirm the conference opinion as a biological opinion issued through formal consultation if the mountain plover is listed. The request must be in writing. If the Service reviews the proposed action and finds that there have been no significant changes in the action as planned or in the information used during the conference, the Service will confirm the conference opinion as the biological opinion on the project and no further section 7 consultation will be necessary.

After listing of the mountain plover as endangered or threatened and any subsequent adoption of this conference opinion, the Surface Transportation Board shall request reinitiation of consultation if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the agency action that may affect the species or critical habitat in a manner or to an extent not considered in this conference opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the species or critical habitat that was not considered in this conference opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action.

The portion of the incidental take statement addressing the mountain plover provided in this conference opinion does not become effective until the species is listed and the conference opinion is adopted as the biological opinion issued through formal consultation. At that time, the project will be reviewed to determine whether any take of the mountain plover has occurred. Modifications of the opinion and incidental take statement may be appropriate to reflect that take. No take of the mountain plover may occur between the listing of the mountain plover and the adoption of the conference opinion through formal consultation, or the completion of a subsequent formal consultation.

Thank you for your assistance in the conservation of endangered, threatened, and proposed species. If you have any questions or comments on this biological opinion, please contact Mary Jennings at the letterhead address or by phone at (307) 772-2374, extension 32.

Sincerely,

A handwritten signature in cursive script, appearing to read "Michael M. Long".

Michael M. Long
Field Supervisor
Wyoming Field Office

cc: Statewide Habitat Coordinator, WGFD, Cheyenne, WY
 Non-game Coordinator, WGFD, Lander, WY
 Thunder Basin National Grasslands, Douglas, WY
 Omaha District, USACE, Omaha, NE
 Bureau of Land Management, Cheyenne, WY
 Regional Environmental Officer, Office of Environmental Policy and Compliance, DOI,
 Denver, CO
 Field Supervisor, FWS, Pierre, SD
 Field Supervisor, FWS, Bloomington, MN
 Field Supervisor, FWS, Grand Junction, CO
 Lou Hanebury, FWS, Billings, MT

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